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DRINKER BIDDLE & REATH (DC)  
1500 K STREET, N.W.  
SUITE 1100  
WASHINGTON, DC 20005-1209

EXAMINER

WOZNIAK, JAMES S

ART UNIT

PAPER NUMBER

2626

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/940,584

Applicant(s)

TAMURA, FUMIO

Examiner

James S. Wozniak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. In response to the office action from 11/24/2006, the applicant has submitted a request for continued examination, filed 1/4/2007, amending the independent claims 1 and 9, while arguing to traverse the art rejection based on the amended limitations (*Amendment, Pages 9-11*). The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection in view of Rabiner et al ("*On the Application of Embedded Digit Training to Speaker Independent Connected Digit Recognition*," 1984).

### *Response to Arguments*

2. In response to the applicant's challenge of the official notice/applicant's admitted prior art (*Amendment, Page 11*), the examiner notes that the previous indication that the subject matter of claims 9-15 is the applicant's admitted prior art is correct because the applicant failed to traverse the assertion of official notice in the response filed on 4/18/2006 and it was indicated in the subsequent Office Action (*from 7/7/2006*) that the well-known in the art statements are to be admitted prior art (*Page 2*). See MPEP 2144.03 (C). The examiner notes, however, that the limitations of Claims 9-15 are taught by the below provided prior art, and as such, these claims currently stand rejected in view of said art.

***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 1, Element 15. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 4-15** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claims 4 and 8** are drawn to an audio recognition method and device capable of recognizing a spoken digit string through the use of multiple dictionaries. In order for a claimed

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invention to be considered statutory under 35 U.S.C. 101, it must be useful and accomplish a practical application. That is, it must produce a "useful, concrete and tangible result" (*State Street, 149 F.3d at >1373-74<, 47 USPQ2d at 1601-02*). In the present case, Claims 4 and 8 only recite a final result directed to a determined successful speech recognition result within a processor and not the actual tangible recognition results outputted by voice (*see specification, Page 9*). As such, claims 4 and 8 are directed to non-statutory subject matter. The dependent claims fail to overcome the 35 U.S.C. 101 rejection directed towards independent claims 4 and 8, and thus, are also directed to non-statutory subject matter.

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 4-5 and 8** are rejected under 35 U.S.C. 102(b) as being anticipated by Rabiner et al ("*On the Application of Embedded Digit Training to Speaker Independent Connected Digit Recognition*," 1984).

With respect to **Claim 4**, Rabiner discloses:

Preparing first second and third dictionaries (*area code, exchange code, and number recognition dictionaries, Section IV, Pages 278-279*);

Receiving a sequence of number pronounced by speech (*spoken digit strings, Section III, Page 274*);

Analyzing the sequence of numbers pronounced by speech, while dividing the sequence of numbers into first, second and third regions different in meaning from each other, with reference to the first, second and third dictionaries to determine the successful recognition of the first, second and the third region in order (*sequentially analyzing a connected series of spoken digits while dividing the digits according to boundaries, wherein boundaries reference first, second, and third telephone dictionaries, each having a different meaning, in order to complete recognition of an entire telephone number sequence, Section II, Pages 273-274; and Section IV, Pages 278-279*);

Unless the third region is successfully recognized:

Preparing the third dictionary (*third dictionary related to a personal telephone number, Section IV, Page 279*);

Receiving the third region in the sequence of numbers pronounced by speech (*receiving a third boundary portion for comparison to a third dictionary of personal phone numbers, Section IV, Page 279*); and

Analyzing the third region therein with reference to the third dictionary (*comparing the third boundary portion with the personal phone number dictionary, Section IV, Page 279*); and

Unless the second and third regions are recognized:

Preparing the second and third dictionaries (*second and third dictionaries respectively related to exchange codes and personal phone number codes, Section IV, Pages 278-279*);

Receiving the second and third regions in the sequence of numbers pronounced by speech (*receiving a second and third boundary portion for comparison to a third dictionary of personal phone numbers, Section IV, Pages 278-279*); and

Analyzing the second and third regions with reference to the second and third dictionary (*comparing the third boundary portion with the personal phone number dictionary, Section IV, Pages 278-279*).

With respect to **Claim 5**, Rabiner further recites:

The first dictionary corresponds to the first region (dictionary for a first area code region of a spoken digit string representing a telephone number, Section IV, Page 278);

The second dictionary corresponds to the second region depending on the first region (*dictionary for a second exchange code that is dependent on an area code region, Section IV, Pages 278-279*); and

The third dictionary corresponds to the third region (*dictionary for a third personal telephone code of a spoken digit string representing a telephone number, Section IV, Page 279*).

With respect to **Claim 8**, Rabiner further recites:

A recognition dictionary memory, in which first, second, and third dictionaries for storing a plurality of numbers included in regions divided from the sequence of numbers are stored (*area code, exchange code, and number recognition dictionaries, Section IV, Pages 278-279, which would inherently require some type of memory means for storing the dictionaries for comparison to speech segments*);

A continuous speech recognition for analyzing the sequence of numbers pronounced by speech, while dividing the sequence of numbers into first, second and third regions different in

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meaning from each other, with reference to the first, second and third dictionaries to determine the successful recognition of the first, second and the third region in order (*connected spoken word recognizer for sequentially analyzing a connected series of spoken digits while dividing the digits according to boundaries, wherein boundaries reference first, second, and third telephone dictionaries, each having a different meaning, in order to complete recognition of an entire telephone number sequence, Section II, Pages 273-274; and Section IV, Pages 278-279*);

Unless the third region is successfully recognized:

Preparing the third dictionary (*third dictionary related to a personal telephone number, Section IV, Page 279*);

Receiving the third region in the sequence of numbers pronounced by speech (*receiving a third boundary portion for comparison to a third dictionary of personal phone numbers, Section IV, Page 279*); and

Analyzing the third region therein with reference to the third dictionary (*comparing the third boundary portion with the personal phone number dictionary, Section IV, Page 279*); and

Unless the second and third regions are recognized:

Preparing the second and third dictionaries (*second and third dictionaries respectively related to exchange codes and personal phone number codes, Section IV, Pages 278-279*);

Receiving the second and third regions in the sequence of numbers pronounced by speech (*receiving a second and third boundary portion for comparison to a third dictionary of personal phone numbers, Section IV, Pages 278-279*); and



Analyzing the second and third regions with reference to the second and third dictionary (*comparing the third boundary portion with the personal phone number dictionary, Section IV, Pages 278-279*).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 6 and 9-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabiner et al in view of Odaka et al (*U.S. Patent: 5,675,632*).

With respect to **Claim 6**, Rabiner discloses the method for spoken digit recognition as applied to Claim 4. Although Rabiner discloses that a spoken number sequence corresponds to a telephone number having three regions, the regions taught by Rabiner correspond to a U.S. telephone number having an area code, exchange code, and subscriber's number and not a Japanese telephone number standard having a suburb code, city code, and subscriber's number. Odaka, however, recites the ability to apply speech recognition to a Japanese format telephone number (*Col. 6, Lines 22-48, specifically Line 46 for the Japanese phone number format*).

Rabiner and Odaka are analogous art because they are from a similar field of endeavor in voice dialing systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Rabiner with the concept of applying speech

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recognition to a different, Japanese-format phone number as taught by Odaka in order to extend the applicability of the system and method taught by Rabiner to enable calling to different country locations (*for example, Tokyo*) (*Odaka, Col. 2, Lines 58-67*).

**Claim 9** contains subject matter similar to Claim 6, and thus, is rejected for the same reasons. Furthermore, Rabiner discloses that the three dictionaries are connected such that a previous region narrows down the expected valid choices for a next region. Rabiner additionally discloses speech recognition based on a previous word (Section IV, Pages 278-279).

With respect to **Claims 10-11**, Rabiner discloses that a dictionary list of valid exchange codes (*second dictionary*) is obtained based on a designated area code (*first dictionary*) (*Section IV, Pages 278-279*), while Odaka discloses the Japanese telephone number format as applied to Claim 6, and the storage of telephone data in a table format (*Fig. 5a*).

With respect to **Claims 12-13**, Rabiner discloses that a dictionary list of valid exchange codes (*second dictionary*) is obtained based on a prior designated area code (*first dictionary*) (*Section IV, Pages 278-279*), while Odaka discloses the Japanese telephone number format as applied to Claim 6.

With respect to **Claims 14-15**, Rabiner discloses that a dictionary list of valid subscriber number codes (*third dictionary*) is obtained based on a prior designated exchange code (*second dictionary*) (*Section IV, Pages 278-279*), while Odaka discloses the Japanese telephone number format as applied to Claim 6.

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Rabiner in view of Baker et al (*US. Patent: 6,539,098*), and further in view of "Address System" (Retrieved on 2/21/2007 from [http://www.sljfaq.org/w/Japanese\\_address\\_system](http://www.sljfaq.org/w/Japanese_address_system)).

With respect to **Claim 7**, Rabiner teaches the voice dialing method utilizing digit subgroups, as applied to Claim 4. Although Rabiner suggest recognition of connected digit subgroups, Rabiner does not specifically suggest method usage with digits corresponding to a postal code, however Baker suggests:

The sequence of numbers is a postal code (speech recognition of a postal code, Col. 9, Lines 41-52).

Rabiner and Baker are analogous art because they are from a similar field of endeavor in speech-controlled systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the means of postal code identification using speech recognition as taught by Baker with the teachings of Rabiner in order to increase the applicability of the method taught by Rabiner in a postal code recognition application to enable vocal entry of address data (*Baker, Col. 1, Lines 6-13*).

Although Baker discloses the recognition of various postal codes, Rabiner in view of Baker do not disclose the Japanese postal code format recited in claim 7, however, such a format is standard and has been in use since 1998, as is evidenced by the "Address System" reference (*Page 4*). Thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, to substitute the postal codes taught by Baker with the Japanese postal code system in order to implement the ability to recognize 7 digit Japanese postal codes.

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kelly (*U.S. Patent: 6,347,085*)- discloses the concept of storing telephone number segments in a tree hierarchy.

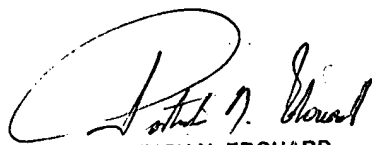
Gandhi et al ("Natural Number Recognition Using MCE Trained Inter-word Context Dependent Acoustic Models," 1998)- discloses a system for connected digit recognition that can be applied to telephone numbers having area codes, exchange codes, and subscriber number codes.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak  
3/15/2007



PATRICK N. EDOUARD  
SUPERVISORY PATENT EXAMINER